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Digital Transmission Content Protection (“DTCP”)

DTCP was developed by the founders of the Digital Transmission License Administrator, LLC (“DTLA” or “5C”), which are Hitachi, Ltd., Intel Corp., Matsushita Electric Industrial Corp., Sony Corp. and Toshiba Corp. Created pursuant to technical specifications crafted in a multi-industry copy protection discussion group, DTCP is designed to protect audio and audiovisual content from unauthorized copying, intercepting and tampering as it is transported over high-performance digital interconnects within a localized network (such as a home or personal digital network environment). DTCP utilizes a combination of technical and legal mechanisms to protect content against use that is inconsistent with the terms under which it was obtained from the content owner. Technical mechanisms provide the basis for content protection. An effective licensing structure, supported by legal protections such as the Digital Millennium Copyright Act, provides for enforcement.

DTCP includes technical elements of device Authentication and Key Exchange (AKE); content encryption; content control information; and system renewability. Using AKE, DTCP-compliant devices authenticate other DTCP-compliant devices along a network, and transmit protected content only to those compliant devices over a secure authenticated channel. DTCP provides two forms of authentication -- Full and Restricted -- to support a wide range of consumer products from the simple to the most fully functional. Once authentication occurs, protected content is transmitted between DTCP-compliant devices using 56 bit encryption. DTLA provides Public Key Infrastructure support to DTCP licensees (known as “adopters”) by providing operational keying material (certificates and keys) and System Renewability Messages (SRM). Content control information is protected along with the associated content and prescribes the required processing of the content. Finally, DTCP system renewability provides for the capability of revoking unauthorized devices via the exchange of SRMs.

Two types of licenses are available for DTCP. Manufacturers of devices that implement DTCP will execute an “Adopter Agreement.” The Adopter Agreement provides protections to DTCP adopters concerning changes to the specification while prescribing certain technical elements and levels of robustness to which the license product must

adhere. Content creators and authoring studios may take out “Content Participant Agreements.” The Content Participant Agreement provides for third party enforcement to protect against breaches of compliance and robustness rules, and provides content owners with the ability to engage with DTLA over proposed changes concerning certain aspects of DTCP. Notably, DTLA has provided content creators with the ability to employ DTCP without signing a Content Participant Agreement, so long as the content owner respects certain “encoding rules” that limit the level of copy control that can be applied to content delivered through particular channels. Briefly, those encoding rules provide that certain content, such as prerecorded media, pay-per-view and video on demand, can be marked “copy never”; premium subscription television channels can be marked “copy one generation,” permitting first-generation copying but preventing serial copying; broadcast television can be marked as “EPN” whereby content can be freely copied, but each copy must be protected (such as by encryption), or “copy freely” such that copies can be made without restriction in unprotected form.

DTCP is constructed so as to support the interconnection of other content protection technologies providing end-to-end protection of content within a local network via a licensing chain. The following content protection technologies have been provisionally approved by DTCP; 1) 4C Entity LLC’s Content Protection for Recordable Media (CPRM) 2) Digital Content Protection, LLC’s High-bandwidth Digital Content Protection (HDCP), and, 3) Victor Company of Japan’s D-VHS.

DTCP can be mapped to new consumer favored digital interconnects and is currently mapped to and protects audio and audiovisual content over IEEE1394, USB, and MOST digital interconnects. More than 50 companies have taken licenses to DTCP. DTCP is implemented in a variety of current consumer electronics and information technology products. Specifications, licensing terms and other information regarding DTCP can be found at <http://www.dtcp.com>.